

FIG. 1A

cagggatcag gggtccagga actcaggagtc tgcatgtgagg accagacacc actgattgca 60  
 gga atg tgt tcc ctc ccc atg gca aga tac tac ata att aaa tat gca 108  
 Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala  
 1 5 10 15  
 gac cag aag gct cta tac aca aga gat ggc cag ctg ctg gtg gga gat 156  
 Asp Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp  
 20 25 30  
 cct gtt gca gac aac tgc tgt gca gag aag atc tgc aca ctt cct aac 204  
 Pro Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn  
 35 40 45  
 aga ggc ttg gac cgc acc aag gtc ccc att ttc ctg ggg atc cag gga 252  
 Arg Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly  
 50 55 60  
 ggg agc cgc tgc ctg gca tgt gtg gag aca gaa gag ggg cct tcc cta 300  
 Gly Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu  
 65 70 75  
 cag ctg gag gat gtg aac att gag gaa ctg tac aaa ggt ggt gaa gag 348  
 Gln Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu  
 80 85 90 95  
 gcc aca cgc ttc acc ttc ctc cag agc agc tca ggc tcc gcc ttc agg 396  
 Ala Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg  
 100 105 110  
 ctt gag gct gcc tgg cct ggc tgg ttc ctg tgt ggc ccg gca gag 444  
 Leu Glu Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu  
 115 120 125  
 ccc cag cag cca gta cag ctc acc aag gag agt gag ccc tca gcc cgt 492  
 Pro Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg  
 130 135 140  
 acc aag ttt tac ttt gaa cag agc tgg tag ggagacagga aactgcgttt 542  
 Thr Lys Phe Tyr Phe Glu Gln Ser Trp  
 145 150  
 tagccttgtg cccccaaacc aagctcatcc tgctcagggt ctatggtagg cagaataatg 602  
 tcccccgaaa tatgtccaca tcctaattccc aagatctgtg catatgttac catacatgtc 662  
 caaagaggtt ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg 722  
 ttatccttgt gggctcagtt taatcacaag aaggaggcag gaagggagag tcagagagag 782  
 aatgaaagat accatgcttc taatttgaa gatggagtga gggcccttga gccaacaaat 842  
 gcaagggttt ttagaaagggtg gaaaagccaa gggAACGGAT tctcctctag agtctccgg 902

## FIG. 1B

aggaacacag ctcttgacac atggattca gtcagtgc acccattca gacttctgac 962  
ctccacaact ataaaataat aaacctgtgt tattgtaaac ctctaaaaaaaaaaaaaaa 1020

## FIG. 2A

Sequence Data

cagggatcag ggttccagga actcaggatc tgcagtgagg accagacacc actgattgca	60
gga atg tgt tcc ctc ccc atg gca aga tac tac ata att aaa tat gca	108
Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala	
1               5               10               15	
gac cag aag gct cta tac aca aga gat ggc cag ctg ctg gtg gga gat	156
Asp Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp	
20               25               30	
cct gtt gca gac aac tgc tgt gca gag aag atc tgc ata ctt cct aac	204
Pro Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Ile Leu Pro Asn	
35               40               45	
aga ggc ttg gcc cgc acc aag gtc ccc att ttc ctg ggg atc cag gga	252
Arg Gly Leu Ala Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly	
50               55               60	
ggg agc cgc tgc ctg gca tgt gtg gag aca gaa gag ggg cct tcc cta	300
Gly Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu	
65               70               75	
cag ctg gag gat gtg aac att gag gaa ctg tac aaa ggt ggt gaa gag	348
Gln Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu	
80               85               90               95	
gcc aca cgc ttc acc ttc ttc cag agc agc tca ggc tcc gcc ttc agg	396
Ala Thr Arg Phe Thr Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg	
100               105               110	
ctt gag gct gct gcc tgg cct ggc tgg ttc ctg tgt ggc ccg gca gag	444
Leu Glu Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu	
115               120               125	
ccc cag cag cca gta cag ctc acc aag gag agt gag ccc tca gcc cgt	492
Pro Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg	
130               135               140	
acc aag ttt tac ttt gaa cag agc tgg tag ggagacagga aactgcgttt	542
Thr Lys Phe Tyr Phe Glu Gln Ser Trp	
145               150	
tagccttgtc cccccaaacc aagctcatcc tgctcagggt ctatggtagg cagaataatg	602
tcccccgaaa tatgtccaca tcctaattccc aagatctgtg catatgttac catacatgtc	662
caaagaggtt ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg	722
ttatccttgtt gggctcagtt taatcacaag aaggaggcag gaagggagag tcagagagag	782
aatggaagat accatgcttc taatttgaa gatggagtga gggcccttga gccaacaat	842
gcaggtgttt ttagaaggtg gaaaagccaa gggAACGGAT tctcctctag agtctccggaa	902

FIG. 2B

```
aggAACACAG ctcttgacac atggattca gtcagtgac acccattca gacttctgac 962  
ctccacaact ataaaataat aaacttgtgt tattgtaaac ctctaaaaaaaaaaaaaaa 1020
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### FIG. 3

DRAFT  
DNA  
SEQUENCE  
ALIGNMENT

gctcccgcca ggagaaaaggaa acattctgag gggagtctac accctgtgga gctcaag	57
atg gtc ctg agt ggg gcg ctg tgc ttc cgt gag gac cag aca cca ctg	105
Met Val Leu Ser Gly Ala Leu Cys Phe Arg Glu Asp Gln Thr Pro Leu	
1 5 10 15	
att gca gga atg tgt tcc ctc ccc atg gca aga tac tac ata att aaa	153
Ile Ala Gly Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys	
20 25 30	
tat gca gac cag aag gct cta tac aca aga gat ggc cag ctg ctg gtg	201
Tyr Ala Asp Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val	
35 40 45	
gga gat cct gtt gca gac aac tgc tgt gca gag aag atc tgc ata ctt	249
Gly Asp Pro Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Ile Leu	
50 55 60	
cct aac aga ggc ttg gcc cgc acc aag gtc ccc att ttc ctg ggg atc	297
Pro Asn Arg Gly Leu Ala Arg Thr Lys Val Pro Ile Phe Leu Gly Ile	
65 70 75 80	
cag gga ggg agc cgc tgc ctg gca tgt gtg gag aca gaa gag ggg cct	345
Gln Gly Gly Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro	
85 90 95	
tcc cta cag ctg gag gat gtg aac att gag gaa ctg tac aaa ggt ggt	393
Ser Leu Gln Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly	
100 105 110	
gaa gag gcc aca cgc ttc acc ttc cag agc agc tca ggc tcc gcc	441
Glu Glu Ala Thr Arg Phe Thr Phe Phe Gln Ser Ser Gly Ser Ala	
115 120 125	
ttc agg ctt gag gct gct gcc tgg cct ggc tgg ttc ctg tgt ggc ccg	489
Phe Arg Leu Glu Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro	
130 135 140	
gca gag ccc cag cag cca gta cag ctc acc aag gag agt gag ccc tca	537
Ala Glu Pro Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser	
145 150 155 160	
gcc cgt acc aag ttt tac ttt gaa cag agc tgg tag ggagacagga	583
Ala Arg Thr Lys Phe Tyr Phe Glu Gln Ser Trp	
165 170	
aactgcgttt tagccttggt cccccaaacc aagctcatcc tgctcagggt ctatggtagg	643
cagaataatg tcccccgaaa tatgtccaca tcctaattccc aagatctgtg catatgttac	703
catacatgtc caaagaggtt ttgcaaatgt gattatgtta a	744

FIG. 4A

	1	50
IL-1_alpha	MAEVPKLASE MMAYYSGNED DLFFEADGPK QMKCSFQDLD LCPLDGGIQL	
IL-1_beta	-----	
IL-1RA	-----	
IL-1_delta	-----	
CS329	-----	
Tango-77	-----	
Zilla4	-----	
IL-1_zeta	-----	
IL-1RA_beta	-----	
Spoil_II	-----	
IL-1_epsilon	-----	
IL-1_eta	-----	
	51	100
IL-1_alpha	RISDHHYSKG FRQAASVVVA MDKLRKMLVP CPQTFQENDL STFFPFIFEE	
IL-1_beta	-----	
IL-1RA	-----	
IL-1_delta	-----	
CS329	-----	
Tango-77	----- MSFVGENS GVKGMSEDWE KDEPQCCLLED PAGSPLEPGP	
Zilla4	----- MSFVGENS GVKGMSEDWE KDEPQCCLLED PAGSPLEPGP	
IL-1_zeta	-----	
IL-1RA_beta	----- MRGTPGDADG GGRAVYQS.. . . . .	
Spoil_II	----- MRGTPGDADG GGRAVYQSSE SNAVGGMGLWR LRPSALTTLSP	
IL-1_epsilon	-----	
IL-1_eta	-----	
	101	150
IL-1_alpha	EPIFFDTWDN EAYVHDAPVR SLNCTLRDSQ QKSLVMSGPY ELKALHLQGQ	
IL-1_beta	----- APVR SLNCTLRDSQ QKSLVMSGPY ELKALHLQGQ	
IL-1RA	LLFLFLFHSETI CRPSGRKSSK IQAFRIWDVN QKTFYLRNN. QLVAGYLQGP	
IL-1_delta	----- MVLSG ALCFRMKDSA LKVLYLHNN. QLLAGGLHAG	
CS329	----- MCSLPM ARYYIICKYAD QKALYTRDG. QLLVGDPVAD	
Tango-77	SLPTMNFVH. .T. . . . .	
Zilla4	SLPTMNFVH. .TSPKVKNLN PKKFSIHQDQ HKVLVLDSG. NLIA.. VPKD	
IL-1_zeta	TKGKNSFKKR LRGPKVKNLN PKKFSIHQDQ HKVLVLDSG. NLIA.. VPKD	
IL-1RA_beta	..... MCK PITGTINDLN QQVWTLQGQ. NLVA.. VPRS	
Spoil_II	VEAPAFSAPL CTLPFPPVCK PITGTINDLN QQVWTLQGQ. NLVA.. VPRS	
IL-1_epsilon	----- MEKALKIDT PQQGSIQDIN HRVWVLQDQ. TLIA.. VPRK	
IL-1_eta	----- MNPQREAA PKSYAIRDSR QMVWVLSGN. SLIA.. APLS	
	151	200
IL-1_alpha	DMEQQVVFMSM ... SFVQGEE SNDKIPVALG LKEKNLYLSC VLKDDK.. PT	
IL-1_beta	DMEQQVVFMSM ... SFVQGEE SNDKIPVALG LKEKNLYLSC VLKDDK.. PT	
IL-1RA	NVNLEEKIDV VP.....IEP ....HALFLG IHGGKMCLSC VKSGDE.. TR	
IL-1_delta	KVIKGEEISV VPNRWLDASL ....SPVILG VQGGSQCLSC .GVGQE.. PT	
CS329	NC.CAEKICT LPNRGLDRTK ... VPIFLG IQGGSRCLAC VETEEG.. PS	
Tango-77	....KIFFA LASSLSSA.S AEKGSPILLG VSKGEFCLYC DKDKGQSHPS	
Zilla4	NYIRPEIFFA LASSLSSA.S AEKGSPILLG VSKGEFCLYC DKDKGQSHPS	
IL-1_zeta	NYIRPEIFFA LASSLSSA.S AEKGSPILLG VSKGEFCLYC DKDKGQSHPS	
IL-1RA_beta	DSVTPVTVAV ITCKYPEALE QGRGDPYLG IONPEMCLYC EKVGEQ.. PT	
Spoil_II	DSVTPVTVAV ITCKYPEALE QGRGDPYLG IONPEMCLYC EKVGEQ.. PT	
IL-1_epsilon	DRMSPVTIAL ISCRHVETLE KDRGNPIYLG LNGLNLCLMC AKVGDQ.. PT	
IL-1_eta	RSIKPVTLHL IACRDTEFSD KEKGNMVYLG IKGKDLCLFC AEIQGK.. PT	

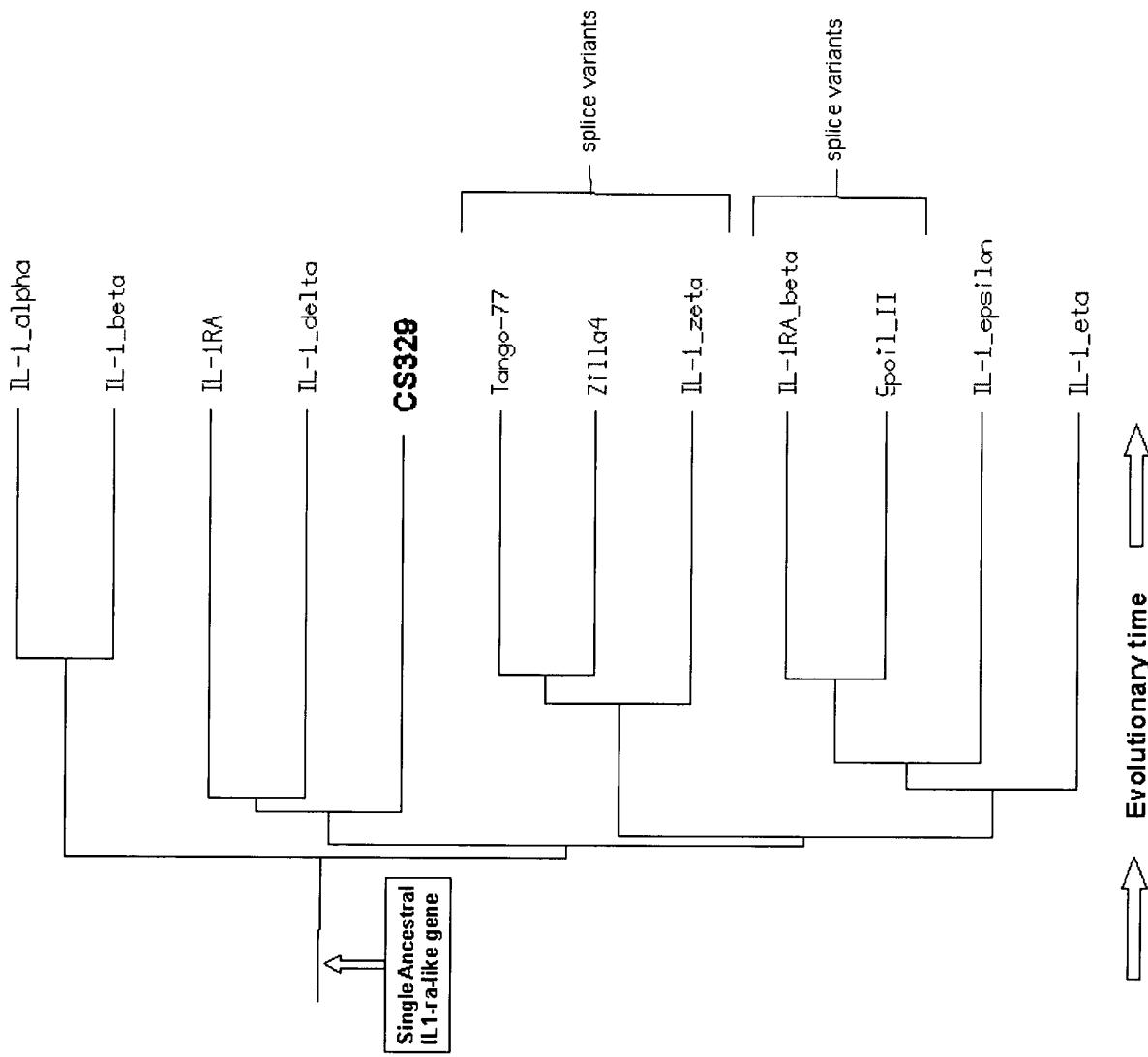
## FIG. 4B

<p style="text-align: right;">201</p> <p>IL-1_alpha LQLESVDPKN Y..PKKKMEK RFVFNKIEIN NKLEFESAQF PNWYISTSQA      IL-1_beta LQLESVDPKN Y..PKKKMEK RFVFNKIEIN NKLEFESAQF PNWYISTSQA      IL-1RA LQLEAVNITD LSENRKQDKR .FAFIRSDSG PTTSFESAAC PGWFLCTAME      IL-1_delta LTLEPVNIME LYLGAKESKS .FTFYRRDMG LTSSFESAAY PGWFLCTVPE      CS329 LQLEDVNIEE LYKGGEETR .FTFFQSSSG SAFRLEAAAW PGWFLCGPAE      Tango-77 LQLKEKLMK LAAQKESARR PFIFYRAQVG SWNMLESAAH PGWFICTSCN      Zilla4 LQLKEKLMK LAAQKESARR PFIFYRAQVG SWNMLESAAH PGWFICTSCN      IL-1_zeta LQLKEKLMK LAAQKESARR PFIFYRAQVG SWNMLESAAH PGWFICTSCN      IL-1RA_beta LQLKEQKIMD LYQPEPV.K PFLFYRAKTG RTSTLESVAF PDWFIA.SSK      Spoil_II LQLKEQKIMD LYQPEPV.K PFLFYRAKTG RTSTLESVAF PDWFIA.SSK      IL-1_epsilon LQLKEKDIMD LYNQPEPV.K SFLFYHSQSG RNSTFESVAF PGWFIAVSSE      IL-1_eta LQLKEKNIMD LYVEKKAQ.K PFLFFHNKEG STSVFQSVD PGWFIATSTT</p>	<p style="text-align: right;">250</p>
<p style="text-align: right;">251</p> <p>IL-1_alpha ENMPVFL... .GGTKGGQDI TDFTMQFVSS ~~~~~</p> <p>IL-1_beta ENMPVFL... .GGTKGGQDI TDFTMQFVSS ~~~~~</p> <p>IL-1RA ADQPVSLTNM PDEG...VMV TKFYFQEDE~ ~~~~~</p> <p>IL-1_delta ADQPVRILTQL PENGGWNAPI TDFYFQQCD~ ~~~~~</p> <p>CS329 PQQPVQLTKE SEPSAR.... TKFYFEQSW~ ~~~~~</p> <p>Tango-77 CNEPVGVTDK FENRKH.... IEFSFQPVCK AEMSPSEVSD</p> <p>Zilla4 CNEPVGVTDK FENRKH.... IEFSFQPVCK AEMSPSEVSD</p> <p>IL-1_zeta CNEPVGVTDK FENRKH.... IEFSFQPVCK AEMSPSEVSD</p> <p>IL-1RA_beta RDQPIILTSE LGKSYN.... TAFELNIND~ ~~~~~</p> <p>Spoil_II RDQPIILTSE LGKSYN.... TAFELNIND~ ~~~~~</p> <p>IL-1_epsilon GGCPLIILTQE LGKANT.... TDFGLTMLF~ ~~~~~</p> <p>IL-1_eta SGQPIFLTKE RGITNN.... TNFYLDSVE~ ~~~~~</p>	<p style="text-align: right;">290</p>

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## Phylogenetic Tree of the Emerging IL1-ra Gene Family

FIG. 5



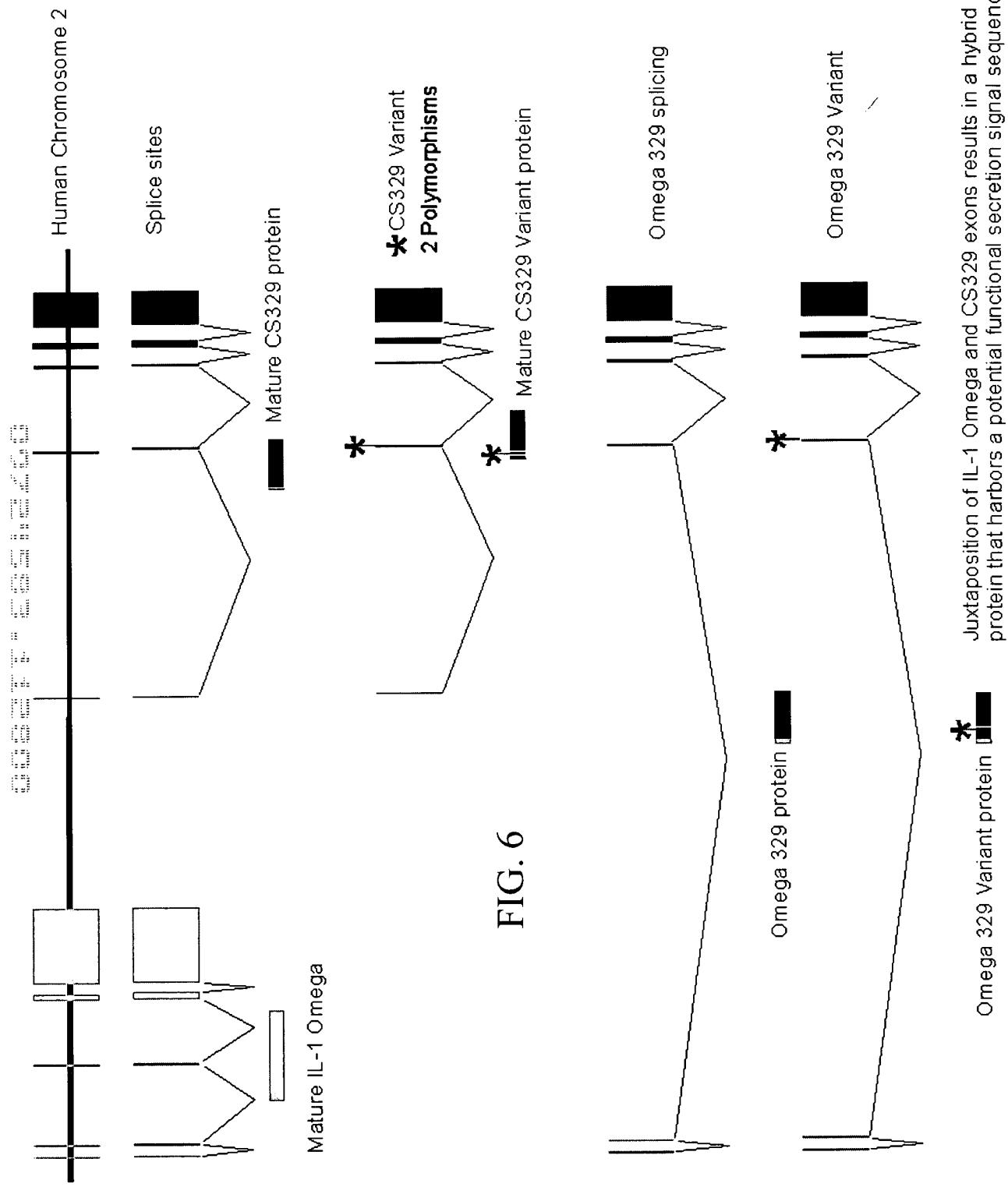


FIG. 7

atg tgc tcc ctt ccc atg gca aga tac tac ata atc aag gat gca cat	48
Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Asp Ala His	
1 5 10 15	
 caa aag gct ttg tac aca cgg aat ggc cag ctc ctg ctg gga gac cct	96
Gln Lys Ala Leu Tyr Thr Arg Asn Gly Gln Leu Leu Leu Gly Asp Pro	
20 25 30	
 gat tca gac aat tat agt cca gag aag gtc tgt atc ctt cct aac cga	144
Asp Ser Asp Asn Tyr Ser Pro Glu Lys Val Cys Ile Leu Pro Asn Arg	
35 40 45	
 ggc cta gac cgc tcc aag gtc ccc atc ttc ctg ggg atg cag gga gga	192
Gly Leu Asp Arg Ser Lys Val Pro Ile Phe Leu Gly Met Gln Gly Gly	
50 55 60	
 agt tgc tgc ctg gcg tgt gta aag aca aga gag gga cct ctc ctg cag	240
Ser Cys Cys Leu Ala Cys Val Lys Thr Arg Glu Gly Pro Leu Leu Gln	
65 70 75 80	
 ctg gag gat gtg aac atc gag gac cta tac aag gga ggt gaa caa acc	288
Leu Glu Asp Val Asn Ile Glu Asp Leu Tyr Lys Gly Gly Glu Gln Thr	
85 90 95	
 acc cgt ttc acc ttt ttc cag aga agc ttg gga tct gcc ttc agg ctt	336
Thr Arg Phe Thr Phe Gln Arg Ser Leu Gly Ser Ala Phe Arg Leu	
100 105 110	
 gag gct gct gcc cct ggc tgg ttt ctc tgt ggc cca gct gag ccc	384
Glu Ala Ala Ala Cys Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro	
115 120 125	
 cag cag cca gtg cag ctc acc aaa gag agt gaa ccc tcc acc cat act	432
Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Thr His Thr	
130 135 140	
 gaa ttc tac ttt gag atg agt cggt taa	459
Glu Phe Tyr Phe Glu Met Ser Arg	
145 150	

FIG. 8

## FIG. 9A

actagtctcc catagacaac agctgaatgt acgaggtag aagcaaggcc tgccccagaa 60  
ccattgcaag ccaggtgctg tcttgattgt agcctcataa aaaactgatg cagaattgcc 120  
ccaccaacat gctccagatt cctgctccac agaaaccctg tgaactaacc atgttgcctt 180  
tagattctgc agtaagttga taatctgcag taaataacat tcgatgaaag agaaacatgt 240  
gtagttactt tattatgatc aaaactttat ttctccactc tttccatttt ctttcaga 300  
attgacacca gcctttcact aacccaaata gcctattaa atgctgatca tacttctctt 360  
gttaactgtt acctgttccc aaaaggtaca attcccttc gaccatagct gcatctccca 420  
cctgcacacc aggatgttcc tcataatttct acctaaaaca ttggggacta caagtgaaag 480  
caaaagaggg ggtccatatac agaaccccaag gtattnagct gtaaaactca cttgtcaggc 540  
cagcttgcata ggtttacagt ttgtagaagg accagaaaga aggtagccaa gacagaagag 600  
gcaacctctg cttgtccttag aaccttcagt ccatatacat ctaagctccc cagcaccatt 660  
tctaccacag acctctcaga gttcctgagg atgcagaccc caggacactg acctcagttt 720  
ccaggcaggg tttctgcaca ccccttcac actgcctgac tggagtttag tctcatggtg 780  
caacactact ttgggacact gtacccatcc cctcgaccta cagaaaccat tcactttca 840  
aggtcacctc ctataggaag tatttggaaaa gatgagagtc atggtcattt gctatgataa 900  
tattctgtgc ttatctccct gtaaaaagtt ggctgggt ctctggcatg catctgaccc 960  
taagggttggaa gctgcaccaa tatgtttta agcaccggc ataatgcttc gcaaaatttc 1020  
agaacatggt ttgtacagaa tgtactttcc tccactcata caaacccttggaaaagagta 1080  
gttgaatcc caactcattc ttgaaggcca cctttgttag ggtgacagaa tttaaaaata 1140  
cagaatttaa aaatacttta tcccaggaa gctcacactt ctaaatccag aatgaaagaa 1200  
gaaatagaaa cacacttgtg gtggcggtgg tgggtgtat ggtggcgtg gtgggtgg 1260  
tgggtgtgtt ggtgatggtg gtgggtgg tgggtgtgtt ggtcggtgt gtgtaatgat 1320  
cacagtaaag tgaggcatca tggcctgaga gagtcaggca tcacagctat tcaagtgaaa 1380  
actacactact actgattta gagttctata attttagtag cagccacagg cctggggcct 1440  
gggcctatat tttcagagag gaaatgttca cagcaggatca actgcagaca gtgaagatca 1500  
gaaatgtttc ataatcaggt catcagagaa aaggcaaaagg agctgatgga ctttatcctg 1560  
aaaaagcaaa atccaaccca cctcatgctt aatgcattca aaggtctgct ggcagaagaa 1620

## FIG. 9B

tacattttgc tttttattat tataaattac ctggagaata tttttgtctg aattatctcc 1680  
caaatatcaa ccataaaaat aaaaaattcc atgtgtgcctt ctcccagggg ctataaagcc 1740  
cctggtctta gagttgttgg ggcaaaacct gaccttgaa gtagttactt ttgaagatgc 1800  
cataccatac atttggccac ttggagagag tctaattgtca catctaaagg gttactctga 1860  
tgctctgttt tctcatatgc ccttggctta cagctaacta tggctccagc taaactataa 1920  
attccttgg caacagagat ggtacgctat gtgtcttga cacagcagaa taaatgctta 1980  
gtgaacatta ctgattgcct gacaggacac ctcacacttt ggtactttca acagagggat 2040  
gtaaacttat gaagaacaat gaagaatgaa tattggcaat aaaagcaaaa attggtaac 2100  
ccaattctag ctctgaaatc attttaggt agtgggaagt cttttgttt tgtttattca 2160  
cttacatcc caattgttgt cctccctcca agttccccac caccaccaca gtccttttc 2220  
cctcccttc tcctctgaga gaatggagaa ccctcctgga tattcccca tcatgaaaca 2280  
ttaagtctct gcagggctag acacttcccc cagtgaggcc agtcagggca gcccgtag 2340  
aaaaagcata tcccacagac agacaacagc ttttggata gccccgttcc agttgttag 2400  
gatccacatg aaggctgagc tgcacatctg ctacatatga atgaggaggc ctaggtccag 2460  
cctgtgtatg ttctttgggtt ggtgggttcag actctgagag ccccaagggt ccaggtcagt 2520  
tgactctgtt ggtcttcctg tggcacccct gtcctttcc agccacacaat cttcccca 2580  
atccttctcc ttctcacttc cataagagtg tgaggagtct ttaaaaacat gaagcatttt 2640  
atctccccag ggcaacacat ggaaatgaaa gattgtgaaa agtaattaa agaaaaagaa 2700  
aaaaaaaaattt aacaaggaat aagaatcttgc tttctctgaa aatgttaag agtgtggaaa 2760  
acataaaactg gattctaata gaatgcaatt ggattgtaat gaaaacctat caaagttatg 2820  
aaatagcttt cactaccttgc cacaaaatct cttggcatgt gtgtgttgg caaattttct 2880  
tgttagttta aaaccacaac aataacaaca aaatagcaaa aattgggtct cagcctcatt 2940  
catttttctt catttcttgc tctgtgtatcg tctgggtctt aagctgacac ctcaccaatt 3000  
cctcatcaag acctttgtgg aaatttgcaa atgtcccaa aaggagaatt acaataagtc 3060  
agagaacgtt ctgtccaatt ctatccct agtgtatggat gagtaaagga tgtataagag 3120  
atggataaat ggactgtatgt acagataaat gaaggaatat gtacatgggtt aggtggatag 3180  
atgacttactt caacagatga gtagaaggat gagaaataga tggacagctg gactgaggca 3240

## FIG. 9C

tgcaaagtca actggagaac tgagtctt gaccatgac tgtccagggt ctcataattcc 3300  
ctagagtcca gggcccatgg ctccctgtgcc atccccatgc aaatctaagg ttaatacgtt 3360  
ctacagctga gtttccttac atatgtgtct cagtaagttt gtatcaacta attaaatctg 3420  
aaaggagttc cttctgatct tcccaaacag agccacactc gtgatgaagt cagccctgct 3480  
tcatttgtgtt tctctggatg catctggctt ccatcagcat aatcttctta ttcttgatcc 3540  
ttccaacctc ttccaggctc agacagaacc ccatggagca tcaaagaggt ttgaccccg 3600  
cattgtttat gtagctgcaa aaccactaat aacacagtca atgacagtag ctacagagac 3660  
agcaggtcag tgtctggctc ctgtcaaggc tttatgagtg actctctccc cttcccgcaa 3720  
atactcatta atctccccac ctccttatta tttggactgt gttgaagata ttatgaaatc 3780  
tctggctct tcttcccgga tctagagcca attacagatt ctgtagggtt gacccaccct 3840  
gaccagacat tataaacaca gtgctgggtgc cctgaagaaa acagttggag actccaggca 3900  
ttagaatcca ggcaccagga actacaggc actgggtgaca gtcggctct ctgtgtatct 3960  
cttacacaca cacacataca cacacacaac acaacataca cacacataca acacacaaca 4020  
catacacata caacacatac acacacacaa cactttctg taatgtctcc aaaattctca 4080  
ggctctaggg aagaagaaaat gtctttaga gaatgcgggt tgatgttcta taagtctagg 4140  
aatacttgat agaatttaat gagaagtata gattaggta aagcaagggt actacatatt 4200  
tggaaaccaca gagtttgaa agtcatctca aaagaaaatta tttaggccag agatgttcaa 4260  
aaaatgtttt gtttgtgaca tatggaagct cccatggaga cattctgtga ttctcatcaa 4320  
tagacagtag ggatgccacc aagggtctaa cgtcttcattt accccatcat ctatcataca 4380  
tccaaatgggt ttctttgaaa acaatctcct tgtgaaactt aaagtagcct tgaaaatata 4440  
ataatcttgt ccagcctctc atttcaatgg gaatagattt aaggcctaag gacaaaaaca 4500  
aaaaacaaaaaa caaacaaaaat aaaaacacca aaaaaaaaaac ccataaaaatg aatgagtagc 4560  
taagttattt ttagaatcca gcctttcagt caaagcttga ttcatgcata tctgtgttct 4620  
gatcttaagg tgctgtgtct gtcagttgtta tagttggata gaggtacaga tgagctatat 4680  
acatcatgct tcaagatttc aggatcttata aactttata aagcaaataa tttgtctaa 4740  
tgcacactaa taaacaatat agcaaagttt gacaggagtt cagagtactg ttagagaagt 4800  
gaagggaaaga attttggat gatagtaaag gggaaaatca aattttgagt catggaatca 4860

## FIG. 9D

tacatagttt gacatagaaa gaaccctggc aaccacataa tctaattgc 4920  
actggcctgt gtttttaaga ttcatttc agctgttatg taactgaaca gacaagatac 4980  
taagcccaag tatagtgaag ccatgtccag tgatcttaat aggagtgaca ggaatggttg 5040  
gtgatgaaga ggggtggatt ttgagcagga ataccaaag caatgctgac tgtgcccttg 5100  
gagagaatta gcatgagtcc ttgagagaaa aatgagatgc tattgcacaa gcaacctagg 5160  
gccagatgggt gtcaagatacg gtggccatcg tggacttttag aaccaggcag gaatgtgatc 5220  
agagatgtac tttatgttagg ttaggtttga ttcagaaacc aggagggtta gcatgtttac 5280  
aatggtgact aaaaacaagc acaaggttat actttaaaga aataatctct gaaaagaagg 5340  
gaggtatatt ttcagtgcg gaaagaggaa tattacaaaa gtgagaggag tagatttgag 5400  
aaagagaagt ggattgtgga ggagcagatg ctcaccacgc ctttacactc acttgaactg 5460  
acacccaaag atgaaggtgt gctgtggact gctgaagctc agcctgtggc tggaaagcag 5520  
taaacaaaat tgctcatcac agctgtacaa gatattccat agcatataaa aataaaagtg 5580  
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ggtaaatgt catgcaagca ggaggatctg attgactccc caggaccac acagttccca 6000  
tgccgttagag cacatctgta atcacagtag gcgtatgatg aaatgggagg tgaatcaaga 6060  
gaatctctag cagctacggg ctggccagcc tcccatgcac agcactaaat aaggcaagga 6120  
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tggcctgaca tatcagtcc taagcctggc tcattgcttg taacactaca agcagtattt 6300  
aataaggata ggcgagagaa cagttaccga atggttcaga agtggggcca tgcctgtgac 6360  
tttaaacaataa tgtttcataat ttttaaataa taacacttag attacaaaat aaatttacta 6420  
cagaaaaatg ttaagaacta tcaacaacca ttgactatcc tgtcggccac aaatgagtgt 6480

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## FIG. 9E

tataacaaggc accagccgtc cttgtccaca tgtgtgtgtg tctacacagc tatgaattta 6540  
attgggataa taatgtgcac attcttacg gcctgcagtt tttacttcat gtatttgaaa 6600  
tgtttgtgcc acaaatgtca tcttaagga gcataccctt atttcctgga tttatcattc 6660  
ccttcagcc gactggacat tgacagcatt tccaactttt caaccctgta aaaataacta 6720  
attgaactat ttataacta agcatttggg caatcaatta cctctgcctg gaatggggc 6780  
aacaacacat gcaatcatgg gaaagccagg atgctgctgt ctgatcccta gccctggcat 6840  
tcgtgcagaa cctcaactctc atctgtgccc tgatatcctt cactctcaag tctttccca 6900  
gtgactttta aaggcaacag aatcatatag ccaataatga aagctacttg gtctacagtt 6960  
gtgtggcggtt tttatagat atttcttca ttacatttc aaatgctatc ccaaaagtcc 7020  
cctataccct cccccaccct gctccctac ccactcactc ccacttcttgc gccctggctt 7080  
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ccc atg qca aga tac tac at gtaagtaa tcttaacgat cgctcaatca 8084

## FIG. 9F

agggcctgg agatcacatg agaaggaaa aggctgagtc aaagggacaa agtccctct 8144  
agccacagaa atctcaaaca ctgaataatt gatcttcatt tttgtcaatc acaacagccc 8204  
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agcaactcct cagacagcca tgaaaacatc ctcaattacc tcatgagaag acactattgt 9344  
catttctgga gcctctgata atcctgagcc taggcagctt tggatgaaa caatttctac 9404  
ccttatttggaa acagtgtccc tctcctgtct ggaaacaatt caccaaaaggc tccatgtgg 9464  
tgtccagtaa ggtggtatgg ggacagaaaat ggacaatgat ccctgagggc agtgcatt 9524  
taaccttgcc ctcctatttc ag a atc aag qat qca cat caa aag qct ttq tac 9577  
aca cgg aat ggc cag ctc ctg ctq gga gac cct gat tca gac aat tat 9625  
agt cca q gtgatcttc cgggtgggg ggtgggggag tggaggggag ggtgtgggg 9681

## FIG. 9G

gggctcttt ccagaagttt ctttgttcc atctgccaca aggccttgat tcttccttc 9741  
aattgtgtct ctagagacat gagaatattt tcacagtat aaggagaaga ggttagggca 9801  
gtttcttcctt gtaaaaaaatg aattccattt accctgcagt ctccatacag aaacaggcca 9861  
gagggggca gacccagtaa ctttagctg agccctactt tgcttaaaac ctgccatctg 9921  
tggtcccctc actgtctgaa ttgcattctg tcttacctcc cag aq aag gtc tgt atc 9978  
ctt cct aac cga ggc cta gac cgc tcc aag gtc ccc atc ttc cta ggg 10026  
atq caq qqa qqa aqt tgc tgc ctq qcq tgt gta aag aca aqa qaq qqa 10074  
cct ctc ctq cag ctq gag gtgagacacc cctcctcatt gcagtcagta 10122  
ctgccactgg aacatagtga catcttgaa cccacatgtc ccctctcttg tttcccatct 10182  
atctctcttt gcctccagct gaggactct agcctttggg gatgtacaga aagaacatgg 10242  
cttcggaaaa ctcttccta ttgagtcctt cttggccaa gcctctgagg cactaaggc 10302  
tgacgtcccc accaaacact cattcatct cacagctgtc tcccttcccc cacag gat 10360  
gtq aac atc qag qac cta tac aag qqa qgt gaa caa acc acc cgt ttc 10408  
acc ttt ttc cag aga agc ttg gga tct gcc ttc agg ctt gag gct gct 10456  
gcc tgc cct ggc tqg ttt ctc tgt qgc cca gct qag ccc cag cag cca 10504  
gtq caq ctc acc aaa qag agt gaa ccc tcc acc cat act gaa ttc tac 10552  
ttt qag atq agt cqg taa agagacataa ggctggggcc tcgtctagtg 10600  
cccccagtct gagatcttct tgctcagcat ctctggaaag cagaataagg aagataccaa 10660  
agatgtttgg gtcttaatcc ccagaatctg tgaccgtgtt acattaaatg gcaaaggat 10720  
tttttttttc ctcatggtc cattgggcc cattggaatc atctgaggcc tcatgaggag 10780  
aaggaagagg tcagagggag actggggcaa actttggtac taaaagtaac aatggagaca 10840  
gggaccataa gctgatgggt aacagtggtt tctagaaacc ggaaatgatg agagctctcc 10900  
tgacacaggt tctggattt tctggactga agaatggtga aataatacag ctccatttatt 10960  
ttaagccact gagtttgaga tcattcaatg aagctgtcat aataaaacct gtgcttcaca 11020  
tacaattcaa tattggtagg caccccggtg atttcttggaa aagacatcta gggattctcc 11080  
tggatgctga ttccagggtc cagtgagtc cctgggttga agagattca caacccagaa 11140  
catcaggctc gactcttcta aaagtccgtc gttgcacccc ttgcctgaga gcattagcaa 11200

## FIG. 9H

tttctatttc ataggaaatc tgtgtccctg cccctgctaa agcagggagc ctggaccgtc 11260  
ctgatttagt gaggggtgag ctgctggcac tttttgtgt caccagtgtc ttaagcagtg 11320  
atggagcaca aaagatctt actgagaaga tggccatgaa gctctggcta gacaccaaga 11380  
atatgatata agcagagcta cagcacaaga tgagccaatg aggaaagcca ttcagggagg 11440  
ctaagcccag cttcccaaag ggacagctaa ccctggactc aatgaatag gggtttcct 11500  
ggcagagaac ataggtcaag cattcttagt agaatcagca attcagaaag gtgtgagaga 11560  
ggcatggaga gctccaggca tgtctggct atggtgtgtc attcttggtt caagaatcca 11620  
acgtctgtgg ttaaggagtt gctgaaaatt aaaataggaa aatgggtaga gtctaattgt 11680  
gaatgacttg caaaggagtt tagcccataa gtggggagct cagaggagtc atctaaggat 11740  
tgcaaggcagg ggcctgtga tcattgctgg accagcctag gtgctacaga gcctaccttc 11800  
agctctgcat cctcaactcac atccaggtac cttcagaggt caatttctgt gctctggttc 11860  
tatggtagc ctgaccctgt ttcatcttct tgtataacctt aggacataa gcttagggac 11920  
tggtagagtt tacttgagtg attggtaat caggcagcac caaactacaa gttgttcagg 11980  
gctttaccaa gggggcactg attggagaat tggaatgagg gtggtagaa tgcattcaga 12040  
aaacaagggg aagaaaaatt tgattgctta aagtggaaag tcccaactta aatgttagtc 12100  
agtagtttct aattacttga gtctctaatt agaggttagt tggcagttc tggtagtta 12160  
atctaagttt catttctta ggctatgacc attctctgag tcgcattgtt gcaatgcagt 12220  
aagaactcaa gacccagaat agcctctgtt aattatTTTtta gcaatgtca ctcatttctg 12280  
ttgcctccta ttgagatctg ttcccatgga ccacccaggc acatcaggcc tcctagtagacc 12340  
aacataataa tgattgctgc acagacaaaa tattttttt cagtatctgg tatttgcac 12400  
atttccatta gtgctggagg gaaggctaca acgaccatga aggcattggcc cctgccttct 12460  
aaggacttac aatgtaatag gagccctgac attataaagt gggtcacctt gtttcaaact 12520  
gagccaaact gaggctgagg gcttagatta gtggtaggtc actttccaga catgttcagt 12580  
gctaagaaaa acacattctg gggtagtta gatgttttag ttcatttgcat aagaagccca 12640  
atgattggac tttcaacttc tggaacccat gtggtgaaag agagaaccaa cttctgacca 12700  
tttgggtcat ggcacatccc ctaccatcac aagaactcac caaaataaat tagaaaaatc 12760  
aagaaaaact catatcctat agacctctgg tagaatttgc agaacgctgc tgtggcactt 12820

## FIG. 9I

gggatttgaa actcaaaaat ggaagaagct acttgtgacc gttcaagact ccagggaggc 12880  
tcctctgaca catcccacga ctcaggctta aattccttct tctccctaga aggccacgcc 12940  
atcttctcaa ccaggccaca gatgtataa ttatgtaaat gtgtgggaga ggcacacttt 13000  
agatcttatac cactagt 13017

100  
80  
60  
40  
20  
0

FIG. 10A

testis  
kidney  
skeletal muscle  
liver  
lung  
spleen  
brain  
heart  
spleen

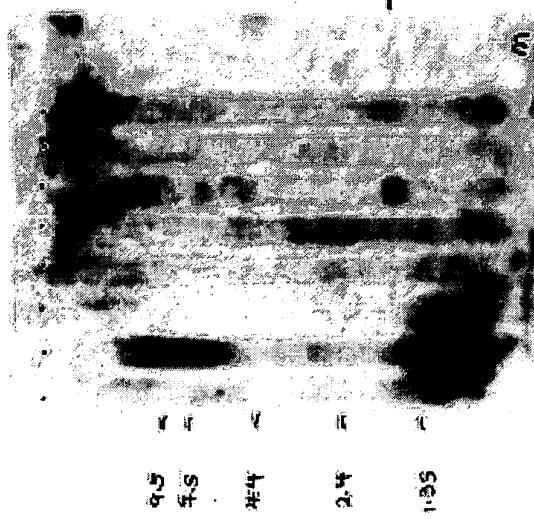


FIG. 10B

pancreas  
kidney  
skeletal muscle  
liver  
lung  
platelets  
brain  
heart  
spleen

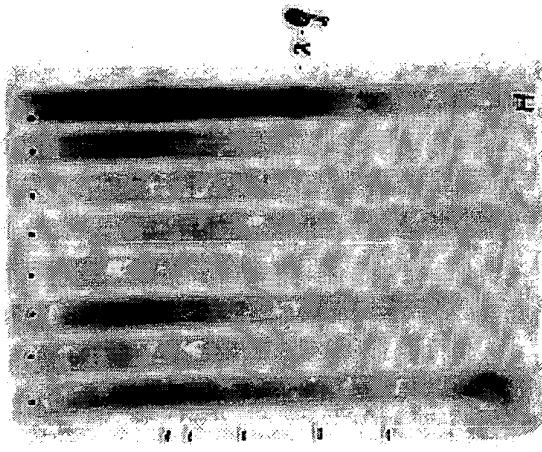


FIG. 10C

trachea  
bone marrow  
peripheral blood leukocytes  
thyroid  
lymph node  
spleen

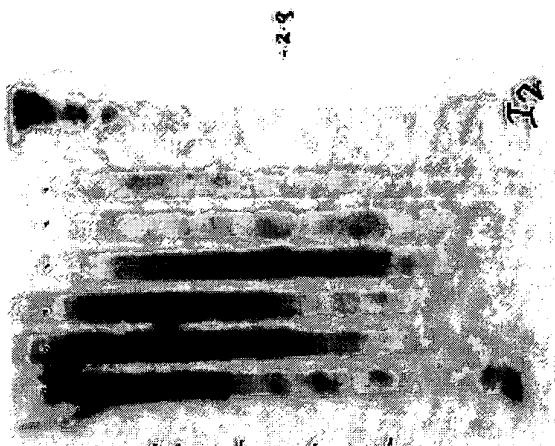


FIG. 11A

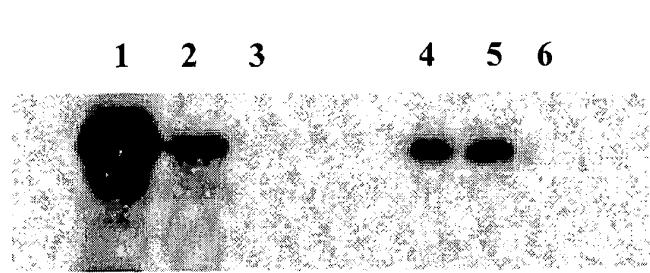


FIG. 11B

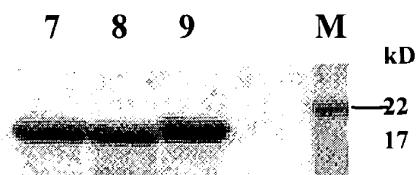


FIG. 12

Spleen		CD4+		CD8+		CD4+ CD8+		CD3+		NK1.1+		CD3+ NK1.1+	
		20.18	3.72	1.67		24.07		3.06		1.4			
control mice													
CS329 mice		15.89	3.99	0.37		22.9		2.08		1.1			
Difference:		-4.29	0.27	-1.3		-1.17		-0.98		-0.3			

Bone Marrow		CD4+		CD8+		CD4+ CD8+		CD3+		NK1.1+		CD3+ / NK1.1+	
		2.62	2.54	0.49		3.88		1.26		0.49			
control mice													
CS329 mice		2.46	2.35	0.41		4.42		1.53		0.57			
Difference:		0.16	0.19	0.08		0.54		0.27		0.08			

FIG. 13A

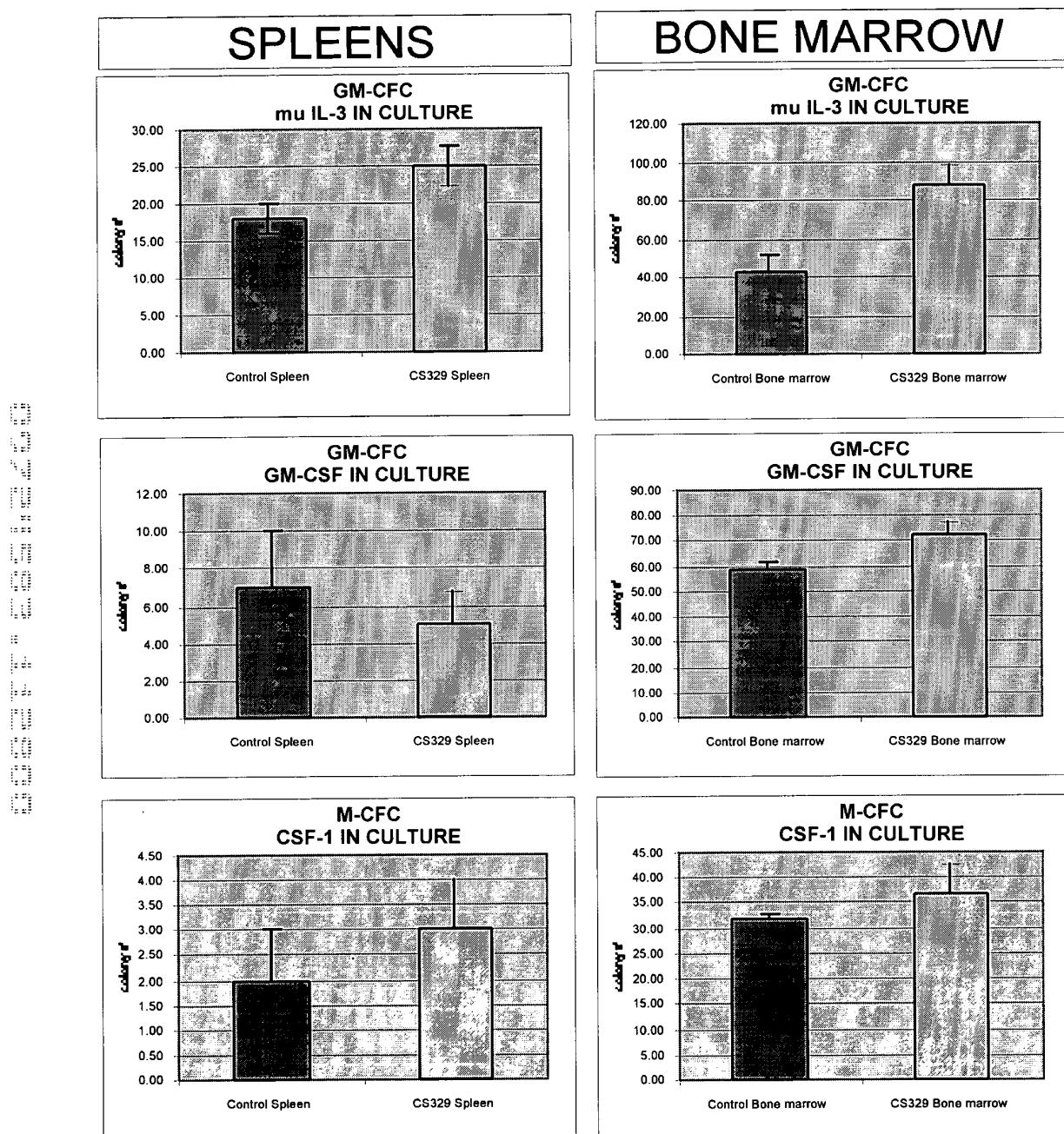


FIG. 13B

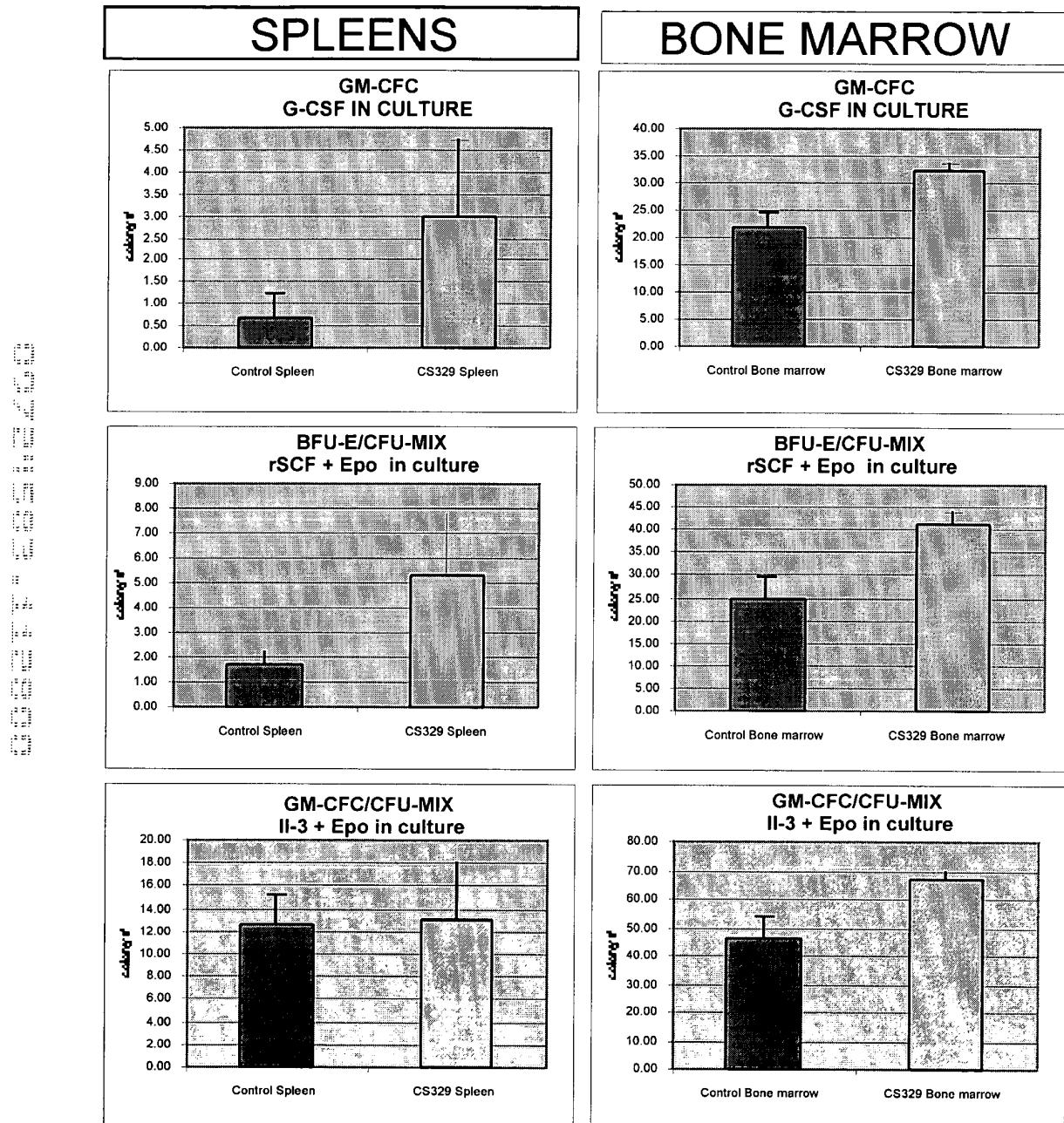


FIG. 14

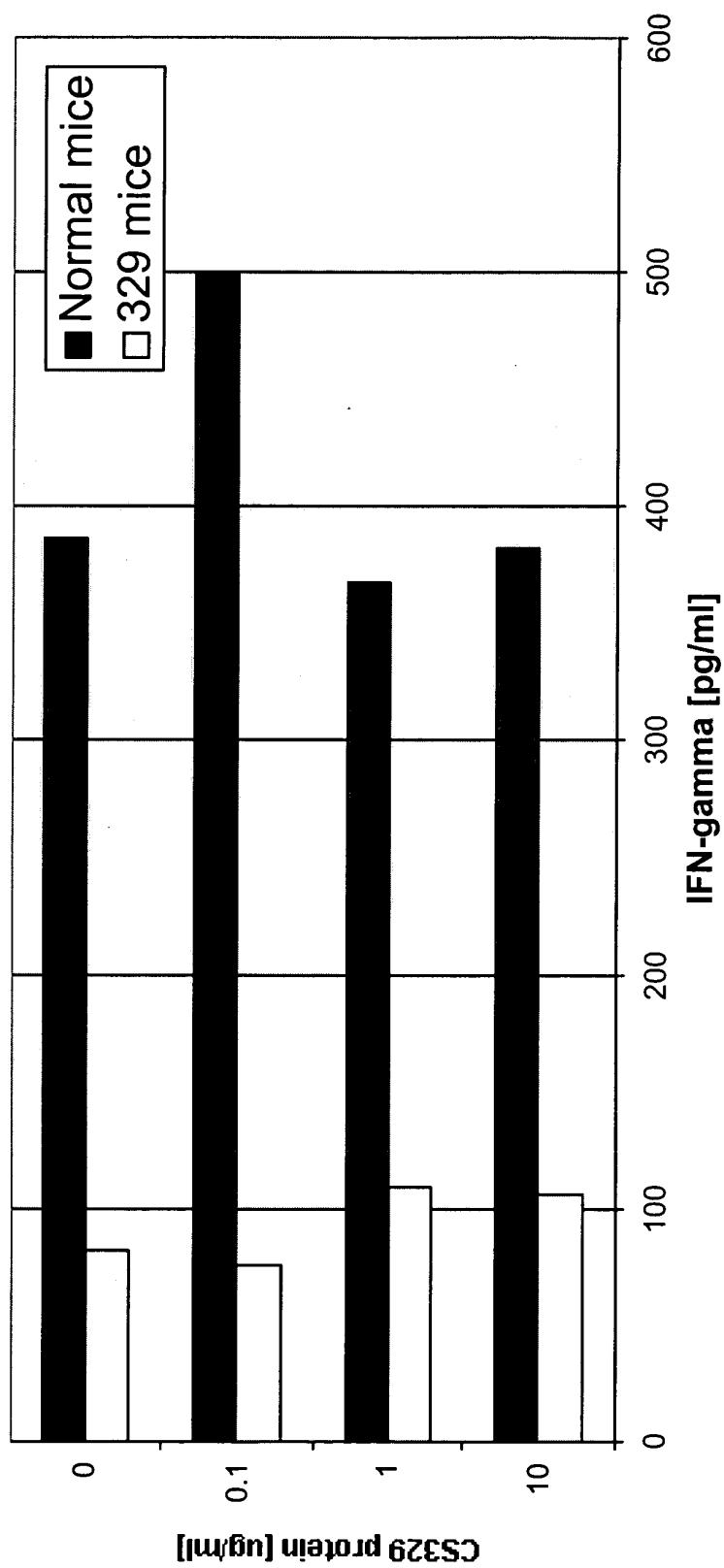


FIG. 15

